

Name:

Date:

Period:

Cells

This is not an intelligence test, but rather a measure of how well you have prepared

Multiple choice: (4 points each)

*Please **choose the best answer choice** for each question*

1. Which scientist **gave the name “cells”** to the structures he viewed while looking at cork (which comes from a tree) under a microscope?
 - a) Hooke
 - b) Schwann
 - c) Leuwenhoek
 - d) Virchow
2. **Biogenesis** states that:
 - a) All cells are alive
 - b) Living things come from other living things
 - c) Cells are a basic unit of organization
 - d) Living things may appear spontaneously
3. Cell membranes are selectively permeable. What does “**permeable**” mean?
 - a) Unable to be penetrated
 - b) Extremely thick
 - c) Able to be penetrated
 - d) Extremely thin
4. Which of the following is an example of **diffusion**?
 - a) Rain falling from the sky
 - b) Water freezing in to ice
 - c) Sugar dissolving into a glass of water
 - d) A stone sinking to the bottom of a lake
5. What is the **main difference** between active transport and passive transport?
 - a) Active transport involves molecules of gases;
passive transport involves molecules of liquids
 - b) Active transport takes place in plant cells;
passive transport takes place in animal cells
 - c) Active transport takes place in the bloodstream;
passive transport takes place in cells
 - d) Active transport requires a cell to use energy ;
passive transport does not

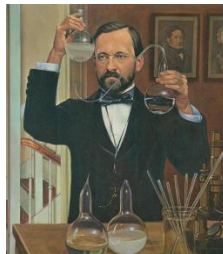


6. The **chromosomes** in the picture above depict:

- a. G2
- b. Anaphase
- c. Metaphase
- d. Cytokinesis

7. Louis Pasteur:

- a. Was known for his microscope skills
- b. Worked with maggots during his research
- c. Provided evidence that living cells can be found in the air
- d. Believed that his work would change the future of science

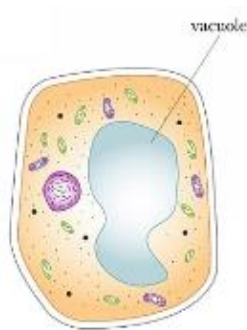


8. This type of transport moves substances **up the concentration gradient** :

- a. Exocytosis
- b. Osmosis
- c. Diffusion
- d. Equilibrium

9. Vacuoles:

- a) Provide power the cell
- b) Clean the cell
- c) Store things like food and water
- d) Can only be found in animal cells



10. The **cell cycle**:

- a) Describes the life and death of cells
- b) Prepares the cells of the immune system only
- c) Starts with prophase
- d) Is “taken up” mostly by the cell making preparations to divide

11. When **diffusion** occurs the particles know to spread out because:

- a) They don’t actually know, they just spread out because of random motion
- b) They are following commands from the nucleus to spread out
- c) It’s in their DNA to spread out
- d) It depends, the particles might be at equilibrium

12. Every part of the human body is composed (made up) of:
- a) DNA
 - b) Cells
 - c) Blood
 - d) Oxygen
13. The **discovery of cells** occurred thanks to:
- a) Cell theory
 - b) Simple microscopes
 - c) High tech laboratories
 - d) The invention of the SEM
14. In this **specific phase** of the Cell Cycle, DNA is copied
- a) Mitosis
 - b) Prophase
 - c) Telophase
 - d) Synthesis
15. **One reason we don't find chloroplasts in an onion**, even though onions are plants and made of plant cells is because:
- a) The onion is not living
 - b) Onions use hyphae to absorb their food
 - c) Onions grow underground where light cannot reach them
 - d) Onions are plants that lack chloroplasts
16. The best **scientific explanation** for why organisms grow in size is:
- a) Mitosis produces new cells from existing ones
 - b) All organisms either eat or get their energy from the sun
 - c) The cells that make up all organisms become larger
 - d) Synthesis
17. In this phase, **chromosomes are visible for the first time** and the nucleus starts to dissolve
- a) Prophase
 - b) Metaphase
 - c) Telophase
 - d) Prometaphase
18. Living things need energy primarily because:
- a) G1 and G2 are energy intensive
 - b) They burn a lot of calories
 - c) The answer is unknown. For now it's "just a theory"
 - d) Cells need energy
19. Imagine that a new cell has been discovered. It has very few organelles, and no nucleus. It also has a whip-like appendage that it uses to get around. This new cell is most likely:
- a) A plant
 - b) Prokaryotic
 - c) Eukaryotic
 - d) A protist

20. What might happen if a cell membrane did not have pores:

- a) The cell membrane would become a cell wall, instead
- b) The cells would not be able to divide
- c) Viruses and bacteria would be able to get in more easily
- d) Substances would not be able to move in and out

21. Where do cells get the oxygen, water, and nutrients they need to function:

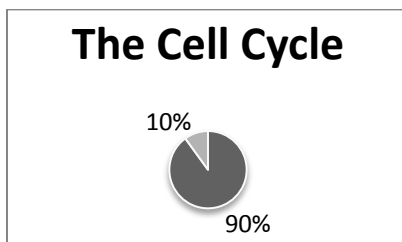
- a) From the stomach
- b) From the lungs
- c) From the bloodstream
- d) From the heart

22. This organelle is like Pepco. It supplies ATP to the cell:

- a) Golgi complex
- b) Mitochondria
- c) Lysosome
- d) Ribosome

23. A cell gets ready to divide, undergoes mitosis, and then splits to form two cells with identical nuclei during the **cell cycle**. Identify the answer choice that agrees with this process:

- a) Interphase, metaphase, prophase, cytokinesis
- b) Prophase, metaphase, anaphase, telophase
- c) Interphase, prophase, metaphase, anaphase, telophase, cytokinesis
- d) Metaphase, anaphase, telophase, cytokinesis, prophase, interphase



24. The **smallest area** of the pie chart **above** represents:

- a) Mitosis
- b) Interphase
- c) The cell cycle
- d) G1, S and G

25. What is the most interesting thing you now know about cells that you did not know six weeks ago?
